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Express Mail No.: EV 612632522 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/045,766 Confirmation No: 3061
Applicant : Ralph C. Tuttle, *et al.*
Filed : 10/23/2001
TC/A.U. : 2811
Examiner : Andre C. Stevenson
Docket No. : 5000.142
Customer No. : 021176
For : PATTERN FOR IMPROVED VISUAL INSPECTION
OF SEMICONDUCTOR DEVICES

July 22, 2005

Certificate of Corrections Branch
Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450

Certificate
JUL 28 2005

REQUEST FOR ISSUE OF CORRECTED PATENT

of Correction

Sir:

Pursuant to 37 CFR §1.322(b), the Assignee of U.S. Patent No. 6,903,446 requests that the U.S. Patent and Trademark Office (PTO) issue a corrected patent in lieu of and with like effect as a certificate of correction with respect to the above-referenced patent. A brief explanation is listed hereafter and on enclosed form PTO/SB/44. Tabulated supporting data is also included, with the tab numbers corresponding to the following numbered paragraphs.

1. May 5, 2004 — Applicants file an Amendment and Reply to Office Action submitting that Claims 1, 4, 5, 10, 11, 14-17, 19, 20, and 27 are in condition for allowance.
2. August 25, 2004 — Examiner Stevenson mails a Notice of Allowability in response to the May 5, 2004, Amendment and Reply. Claims 10 and 27 are omitted.
3. October 13, 2004 — The undersigned practitioner telephones Examiner Stevenson regarding the omitted claims. Examiner Stevenson states that he will call back

JUL 29 2005

if there is a reason the claims were not allowed. Otherwise, he will issue a Supplemental Notice of Allowability.

4. October 19, 2004 — Examiner Stevenson issues a Supplemental Notice of Allowability including Claims 10 and 27.

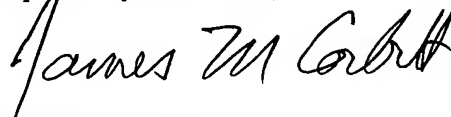
5. November 23, 2004 — Issue Fee paid.

6. June 7, 2005 — Patent No. 6,903,446 issues omitting the allowed subject matter claimed in Claims 10 and 27 (as amended in the May 5, 2004, Amendment and Reply to Office Action).

Accordingly, the Assignee requests that the PTO issue a corrected patent listing original and amended (per the May 5, 2004, Amendment and Reply) Claims 1, 4, 5, 10, 11, 14-17, 19, 20, and 27. Because the PTO is at fault in this matter, no fee is enclosed.

Thank you for your prompt assistance in this matter.

Respectfully submitted,



James M. Corbitt, Ph.D.
Registration No. 52,768

Enclosures

S:\FIRM DOCS\5000\142\COC to PTO 072205.doc

JUL 29 2005

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 6,903,446 B2
 DATED : June 7, 2005
 INVENTOR(S) : Tuttle et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Pursuant to 37 CFR §1.322(b), the Assignee of U.S. Patent No. 6,903,446 requests that the U.S. Patent and Trademark Office (PTO) issue a corrected patent in lieu of and with like effect as a certificate of correction with respect to the above-referenced patent. A brief explanation is listed hereafter and on enclosed form PTO/SB/44. Tabulated supporting data is also included.

1. May 5, 2004 — Applicants file an Amendment and Reply to Office Action submitting that Claims 1, 4, 5, 10, 11, 14-17, 19, 20, and 27 are in condition for allowance.
2. August 25, 2004 — Examiner Stevenson mails a Notice of Allowability in response to the May 5, 2004, Amendment and Reply. Claims 10 and 27 are omitted.
3. October 13, 2004 — The undersigned practitioner telephones Examiner Stevenson regarding the omitted claims. Examiner Stevenson states that he will call back if there is a reason the claims were not allowed. Otherwise, he will issue a supplemental Notice of Allowability.
4. October 19, 2004 — Examiner Stevenson issues a supplemental Notice of Allowability including Claims 10 and 27.
5. November 23, 2004 — Issue Fee paid.
6. June 7, 2005 — Patent No. 6,903,446 issues omitting the allowed subject matter claimed in Claims 10 and 27 (as amended in the May 5, 2004, Amendment and Reply to Office Action).

Accordingly, the Assignee requests that the PTO issue a corrected patent listing original and amended (per the May 5, 2004, Amendment and Reply) Claims 1, 4, 5, 10, 11, 14-17, 19, 20, and 27. Because the PTO is at fault in this matter, no fee is enclosed.

MAILING ADDRESS OF SENDER:

Summa & Allan, P.A.
 11610 N. Community House Road, Suite 200
 Charlotte, NC 28277

PATENT NO.

6,903,446 B2

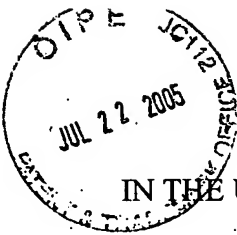
No. of additional copies



This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

JUL 29 2005



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/045,766
Applicant : Ralph C. Tuttle, *et al.*
Filed : 10/23/2001
TC/A.U. : 2811
Examiner : Andre C. Stevenson

Confirmation No: 3061

Docket No. : 5000.142
Customer No. : 021176
For : PATTERN FOR IMPROVED VISUAL INSPECTION
OF SEMICONDUCTOR DEVICES

July 21, 2005

SUPPORTING DATA

FOR

REQUEST FOR ISSUE OF CORRECTED PATENT

FOR

US PATENT NO. 6,903,446

COPY

Auto-Reply Facsimile Transmission



TO: Fax Sender at 704 945 6735
 Fax Information
 Date Received: 5/5/2004 9:22:26 AM [Eastern Daylight Time]
 Total Pages: 12 (including cover page)

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Received
 Cover
 Page

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MAY-05-2004 09:22 FROM: SUMMA & ALLAN, P.A. 704-945-6735		TO: USPTO	P.001-012
SUMMA & ALLAN, P.A. PATENT ATTORNEYS		THIS FACSIMILE TRANSMISSION IS A SUBJECT SUMMA & ALLAN, P.A. 704-945-6735 1. TRANSMISSION 2. TRANSMISSION 3. TRANSMISSION	
FACSIMILE TRANSMISSION SHEET			
TO	FROM		
Examiner Andre C. Stevenson	James Corbin		
COMPANY	DATE		
USPTO - Group A: Unit 2812	5/5/2004		
FAX NUMBER	TOTAL NO. OF PAGES INCLUDING COVER		
703-872-9318	12		
PHONE NUMBER	SENDER'S REFERENCE NUMBER		
571-272-1683	5000.142		
RE	YOUR REFERENCE NUMBER		
Serial No. 10/045,765 Filed: October 23, 2001 Confirmation No. 3061			
<input type="checkbox"/> URGENT <input type="checkbox"/> FOR REVIEW <input type="checkbox"/> PLEASE COMMENT <input type="checkbox"/> PLEASE REPLY <input type="checkbox"/> PLEASE RECYCLE			
NOTES/COMMENTS			
OFFICIAL			
Please find attached a Reply to Notice of Non-Compliant Amendment for filing in the above-referenced application. Thank you.			
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R:\FIRM\DOCS\FORMS\1003\FAXCOVER.DOC			
PAGE 112 / RCVD AT 5/5/2004 9:22:26 AM [Eastern Daylight Time] / EVL:USPTO-EXTR-10 / CDS: 0720318 / CSID 704 945 6735 / DURATION (min-sec): 03:06			

MESSAGE CONFIRMATION

MAY-05-2004 09:25AM WED

FAX NUMBER: 704-945-6735

NAME : SUMMA & ALLAN, P.A.

NAME/NUMBER : 17038729318
 PAGE : 012
 START TIME : MAY-05-2004 09:22AM WED
 ELAPSED TIME : 02' 48"
 MODE : G3 STD ECM
 RESULTS : [O.K]

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 ALLAN, P.A.**
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FACSIMILE TRANSMITTAL SHEET

TO: Examiner Andre C. Stevenson	FROM: James Corbitt
COMPANY: USPTO - Group Art Unit 2812	DATE: 5/5/2004
FAX NUMBER: 703-872-9318	TOTAL NO. OF PAGES INCLUDING COVER: 12
PHONE NUMBER: 571-272-1683	SENDER'S REFERENCE NUMBER: 5000.142
RE: Serial No. 10/045,766 Filed: October 23, 2001 Confirmation No. 3061	YOUR REFERENCE NUMBER:

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ALLAN, P.A.**
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FACSIMILE TRANSMITTAL SHEET



TO:	FROM:
Examiner Andre C. Stevenson	James Corbitt
COMPANY:	DATE:
USPTO - Group Art Unit: 2812	5/5/2004
FAX NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
703-872-9318	12
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
571-272-1683	5000.142
RE:	YOUR REFERENCE NUMBER:
Serial No. 10/045,766	
Filed: October 23, 2001	
Confirmation No. 3061	

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/045,766	Confirmation No:	3061
Applicants	:	Tuttle et al.	Art Unit:	2812
Filed	:	10/23/2001	Examiner:	Andre C. Stevenson
Docket No.	:	5000.142		

For : PATTERN FOR IMPROVED VISUAL INSPECTION OF
SEMICONDUCTOR DEVICES

May 5, 2004

Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450

REPLY TO NOTICE OF NON-COMPLIANT AMENDMENT

Sir:

This responds to the Office communication mailed April 26, 2004.

Amendments to the Claims begin on page 2 of this paper.

Remarks and arguments begin on page 10 of this paper.

Amendments to the Claims:

1. (currently amended) A labeled semiconductor material comprising:
a surface of ~~a semiconductor material~~ silicon carbide; and
a first metal layer on portions but not all of said surface;
said metal layer forming a pattern with rotational symmetry of C_n , where n is at least
2.

Claims 2-3 (canceled)

4. (currently amended) ~~A labeled semiconductor according to Claim 2~~ A
labeled semiconductor material comprising:
a surface of silicon carbide; and
a first metal layer on portions but not all of said surface;
said metal layer forming a pattern with rotational symmetry of C_n , where n is at least
2;
a second metal layer on portions but not all of said surface of said semiconductor
material;
said second metal layer forming a pattern different from said first metal layer pattern;
and
said second pattern having rotational symmetry of C_n where n is at least 2; and
wherein each of said first and second patterns forms an X pattern.

5. (currently amended) ~~A labeled semiconductor according to Claim 4~~ A
labeled semiconductor material comprising:
a surface of silicon carbide; and
a first metal layer on portions but not all of said surface;
said metal layer forming a pattern with rotational symmetry of C_n , where n is at least
2;

a second metal layer on portions but not all of said surface of said semiconductor material;

said second metal layer forming a pattern different from said first metal layer pattern;
and

said second pattern having rotational symmetry of C_n where n is at least 2;

wherein each of said first and second patterns forms an X pattern; and

wherein each X pattern further comprises a tab portion perpendicular to at least one of the arms of said X pattern.

Claims 6-9 (canceled)

10. (currently amended) A labeled semiconductor material according to claim 9 1 wherein said metal layer is selected from the group consisting of nickel, titanium, gold, platinum, vanadium, aluminum, alloys thereof and layered combinations thereof.

11. (currently amended) A semiconductor structure comprising:
a substrate having at least one planar face;
a first metal layer on said planar face, and covering some, but not all of said planar face in a first predetermined geometric pattern;
a second metal layer on said planar face, and covering some, but not all of said planar face in a second geometric pattern that is different from said first geometric pattern; and
an epitaxial layer on the opposite side of said substrate from said planar face and said metal layers.

Claims 12-13 (canceled)

14. (currently amended) ~~A semiconductor structure according to Claim 13~~ A semiconductor structure comprising:

a substrate having at least one planar face;

a first metal layer on said planar face, and covering some, but not all of said planar face in a first predetermined geometric pattern;

a second metal layer on said planar face, and covering some, but not all of said planar face in a second geometric pattern that is different from said first geometric pattern; and

an epitaxial layer on the opposite side of said substrate from said planar face and said metal layers;

wherein said substrate and said epitaxial layer comprise a semiconductor device.

15. (original) A semiconductor structure according to Claim 14 wherein said device is selected from the group consisting of junction diodes, bipolar transistors, thyristors, MESFETS, JFETS, MOSFETs and photodetectors.

16. (currently amended) ~~A semiconductor structure according to Claim 14~~ A semiconductor structure comprising:

a substrate having at least one planar face;

a first metal layer on said planar face, and covering some, but not all of said planar face in a first predetermined geometric pattern;

a second metal layer on said planar face, and covering some, but not all of said planar face in a second geometric pattern that is different from said first geometric pattern; and

an epitaxial layer on the opposite side of said substrate from said planar face and said metal layers;

wherein said substrate and said epitaxial layer comprise a semiconductor device; and
wherein said metal layers form an ohmic contact to said device.

17. (original) A semiconductor structure according to Claim 16 wherein said substrate and said epitaxial layer are silicon carbide and said metal layers are selected from the group consisting of nickel, titanium, gold, alloys thereof, and layered combinations thereof.

18. (canceled)

19. (original) A semiconductor device according to Claim 14 wherein said device comprises a light emitting diode or laser diode that includes a p-n junction, and with said ohmic contact comprising a layer of nickel on said substrate and a layer selected from the group consisting of titanium-gold alloys and titanium-platinum-gold alloys on said nickel layer.

20. (currently amended) A semiconductor wafer comprising:
a silicon carbide substrate and at least one silicon carbide epitaxial layer;
respective primary and secondary orthogonal flats;
respective front and back planar faces;
a plurality of devices on said wafer;
each said device having a first metal layer on said planar face, and covering some, but not all of said planar face in a first predetermined geometric pattern;
and
each said device having a second metal layer on said planar face, and covering some, but not all of said planar face in a second geometric pattern that is different from said first geometric pattern.

Claims 21-26 (canceled)

27. (currently amended) A semiconductor wafer according to Claim 20 wherein:
~~said wafer comprises a silicon carbide substrate and at least one silicon carbide epitaxial layer;~~
said devices comprise light emitting diodes or laser diodes that include a p-n junction;
and
said metal layers comprise a layer of nickel on said substrate and a layer of a titanium-gold alloy on said nickel layer that form respective ohmic contacts to said devices.

28. (Withdrawn) A quality control method for manufacturing a semiconductor device comprising:
placing a first metal layer on a semiconductor face of a device in a first predetermined pattern; and
placing a second metal layer on the same face of the device as the first layer and in a second predetermined geometric pattern that is different from the first pattern.

29. (Withdrawn) A semiconductor manufacturing method according to Claim 28 and further comprising:
inspecting the device to identify the presence or absence of one or both of the patterns on the face.

30. (Withdrawn) A quality control manufacturing method according to Claim 29 and further comprising discarding the device when one or both of the predetermined patterns are absent.

31. (Withdrawn) A quality control manufacturing method according to Claim 29 wherein the step of inspecting the face of the device comprises illuminating the metallized face and scanning the metallized face with a machine inspection system.

32. (Withdrawn) A quality control method according to Claim 29 wherein the step of inspecting the device comprises inspecting a transparent device by illuminating the face opposite from the metal layers and scanning the opposite face with a machine inspection system.

33. (Withdrawn) A quality control method according to Claim 29 wherein:
the step of placing the metal layers comprises placing a pattern with rotational symmetry of C_n , where n is at least 2; and
the step of inspecting each device comprises inspecting either face of the device to identify the presence or absence of the C_n pattern.

34. (Withdrawn) A quality control method for manufacturing wafers with a plurality of semiconductor devices thereon, the method comprising:
placing a first metal layer in a first predetermined geometric pattern on a semiconductor face of each device; and
placing a second metal layer on the same face of each device as said first layer and in a second predetermined geometric pattern that is different from said first geometric pattern;
inspecting the face of each device to identify the presence or absence of one or both of the patterns on each device; and
discarding the devices for which one or both of the patterns are absent.

35. (Withdrawn) A quality control method according to Claim 8 wherein the step of inspecting the face of each device comprises evaluating each device with a machine inspection system.

36. (Withdrawn) A quality control method according to Claim 34 wherein:
the step of placing the metal layers comprises placing a pattern with rotational symmetry of C_n , where n is at least 2; and

the step of inspecting each device comprises inspecting either face of the device to identify the presence or absence of the C_n pattern.

37. (Withdrawn) A quality control method according to Claim 34 comprising forming the semiconductor devices on the wafer prior to the step of placing the first metal layer on the devices.

38. (Withdrawn) A quality control method according to Claim 37 wherein the step of forming the semiconductor devices comprises forming at least one epitaxial layer on a substrate wafer.

39. (Withdrawn) A quality control method according to Claim 38 comprising forming an epitaxial layer of silicon carbide on a silicon carbide substrate.

40. (Withdrawn) A quality control method according to Claim 39 comprising placing the metal layers on the face of the substrate opposite the epitaxial layer.

41. (Withdrawn) A quality control method according to Claim 34 comprising:
placing the metal layers on a wafer that includes at least one flat; and
aligning the metal layers with the flat in a predetermined relationship.

42. (Withdrawn) A quality control method according to Claim 41 wherein the step of inspecting the devices comprises aligning the flat of the wafer with a machine inspection system and thereafter evaluating each device with the machine inspection system.

43. (Withdrawn) A quality control method according to Claim 35 wherein the step of inspecting the devices comprises inspecting a transparent device by illuminating the face of

Tuttle, et al.
Ser. No. 10/045,766
Filed: 10/23/2001
Page 9

the wafer opposite from the metal layers and scanning the illuminated face with a machine inspection system.

Tuttle, et al.
Ser. No. 10/045,766
Filed: 10/23/2001
Page 10

Remarks

Applicants again wish to express their appreciation for the Examiner's careful study of the pending application and claims. Further, Applicants wish to confirm that the Amendment document filed on April 15, 2004, is a *bona fide* attempt to advance the prosecution in this case.

In the aforementioned Amendment document, a complete listing of all the claims was not present, specifically, the text for withdrawn Claims 28-43 was omitted. These corrections are made as of May 5, 2004.

Based on the foregoing corrections and claim Amendments previously filed on April 15, 2004, Applicants respectfully submit that Claims 1, 4, 5, 10, 11, 14-17, 19, 20, and 27 are in condition for immediate allowance and the same is respectfully requested.

Respectfully submitted,



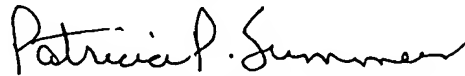
James M. Corbitt
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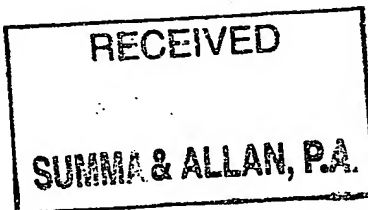
Tuttle, et al.
Ser. No. 10/045,766
Filed: 10/23/2001
Page 11

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is sent by facsimile to the United States Patent and Trademark Office, c/o Technology Center 2800, **Art Unit 2812**, Attn: **Examiner Andre C. Stevenson**, at facsimile number 703-872-9318 on May 5, 2004.

A handwritten signature in cursive script, reading "Patricia P. Summers", written over a horizontal line.

Patricia P. Summers

**NOTICE OF ALLOWANCE AND FEE(S) DUE**21176 7590 08/25/2004
SUMMA & ALLAN, P.A.
11610 NORTH COMMUNITY HOUSE ROAD
SUITE 200
CHARLOTTE, NC 28277

EXAMINER	
STEVENSON, ANDRE C	
ART UNIT	PAPER NUMBER

2812

DATE MAILED: 08/25/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,766	10/23/2001	Ralph C. Tuttle	5000.142	3061

TITLE OF INVENTION: PATTERN FOR IMPROVED VISUAL INSPECTION OF SEMICONDUCTOR DEVICES

Docket	<input checked="" type="checkbox"/>
C.B.	<input checked="" type="checkbox"/>
StaRpt	<input checked="" type="checkbox"/>

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	11/26/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:**I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to [redacted] Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Notice of Allowability

Application No.

10/045,766

Examiner

Andre' C. Stevenson

Applicant(s)

TUTTLE ET AL.

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1. ☒ This communication is responsive to May 05, 2004.
2. ☒ The allowed claim(s) is/are 1,4,5,11,14-17,19 and 20.
3. ☒ The drawings filed on October 23, 2001 are acceptable.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - a) ☐ All b) ☐ Some* c) ☐ None of the CERTIFIED copies of the priority documents have been
 1. ☐ received.
 2. ☐ received in Application No. (Series Code / Serial Number). _____.
 3. ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- ☐ Applicant MUST submit NEW FORMAL DRAWINGS
 - (a) ☐ because the originally filed drawings were declared by applicant to be informal.
 - (b) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (c) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
 - (d) ☐ including changes required by the attached Examiner's Amendment / Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. <u>2</u> | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Notice of References Cited

Application/Control No.

10/045,766

Applicant(s)/Patent Un
Reexamination
TUTTLE ET AL.

Examiner

Andre' C. Stevenson

Art Unit

2812

Page 1 of 1

U.S. PATENT DOCUMENTS

* *	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
* A	US-5,811,863	09-1998	Rostoker et al.	257/401
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

* *	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

* *	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

COPY

10/13/04 5000.142

Claims 10 and 27 are not mentioned in the Notice of Allowance.

Telephone conversation with Examiner Stevenson:

The PTO computer system was unavailable when I called, but he will investigate the matter on 10/14/04 and call me if there is a reason why these claims were omitted. Otherwise, he will issue a supplemental Allowance this week.



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United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,766	10/23/2001	Ralph C. Tuttle	5000.142	3061

21176 7590 10/19/2004

SUMMA & ALLAN, P.A.
11610 NORTH COMMUNITY HOUSE ROAD
SUITE 200
CHARLOTTE, NC 28277

EXAMINER

STEVENSON, ANDRE C

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 10/19/2004

RECEIVED

OCT 27 2004

& ALLAN, P.A.

Docket ☒
C.B. ☒
StaRpt ☒

Please find below and/or attached an Office communication concerning this application or proceeding.

Notice of Allowability

Application No.

10/045,766

Examiner

Andre' C. Stevenson

Applicant(s)

TUTTLE ET AL.

Art Unit

2812

Handwritten mark

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1. ☒ This communication is responsive to May 05, 2004.
2. ☒ The allowed claim(s) is/are 1,4,5,10,11,14-17,19,20 and 27.
3. ☒ The drawings filed on October 23, 2001 are acceptable.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - a) ☐ All b) ☐ Some* c) ☐ None of the CERTIFIED copies of the priority documents have been
 1. ☐ received.
 2. ☐ received in Application No. (Series Code / Serial Number). _____
 3. ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☐ Applicant MUST submit NEW FORMAL DRAWINGS

- (a) ☐ because the originally filed drawings were declared by applicant to be informal.
- (b) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____
- (c) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
- (d) ☐ including changes required by the attached Examiner's Amendment / Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 ☐ Information Disclosure Statements (PTO-1449), Paper No. 2.
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☐ Interview Summary (PTO-413), Paper No. _____
- 6 ☐ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

Allowable Subject Matter

Claims #1, 4, 5, 10, 11, 14 through 17, 19, 20 and 27 are allowed.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866 - 217 - 9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre C. Stevenson whose telephone number is (571) 272 1683.

The examiner can normally be reached on Monday through Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (571) 272 1683. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Application/Control Number: 10/045,766

Art Unit: 2812


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 1782. Also, the proceeding number can be used to fax information;

- (703) 872-9306

Andre C. Stevenson

Art Unit 2812

10/14/04


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSU. E
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (703) 746-4000

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where applicable. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

21176 7590 08/25/2004

SUMMA & ALLAN, P.A.
11610 NORTH COMMUNITY HOUSE ROAD
SUITE 200
CHARLOTTE, NC 28277

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSU FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

PATTI Summers	(Depositor's name)
Patti Summers	(Signature)
November 23, 2004	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,766	10/23/2001	Ralph C. Tuttle	5000.142	3061

TITLE OF INVENTION: PATTERN FOR IMPROVED VISUAL INSPECTION OF SEMICONDUCTOR DEVICES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330 1370	\$300	\$1630 1670	11/26/2004
EXAMINER	ART UNIT	CLASS-SUBCLASS			
STEVENSON, ANDRE C	2812	257-653000			

Change of correspondence address or indication of "Fee Address" (37 CFR 1.63).

Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Summa & Allan, P.A.

2.

3.

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

CREE, INC.

Durham, North Carolina

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

- ☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☒ Advance Order - # of Copies 10

4b. Payment of Fee(s):

- ☒ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Date

Typed or printed name

Registration No.

Philip Summa

Nov. 23, 2004

31,573

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and filing the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Alexandria, VA

Date Mailed: 11/23/2004
Attorney Docket No. 5000.142

Title: PATTERN FOR IMPROVED VISUAL INSPECTION OF
SEMICONDUCTOR DEVICES

Inventors: Tuttle *et al.*

Serial No. 10/045,766

PLEASE STAMP AND CONFIRM RECEIPT IN THE U.S.

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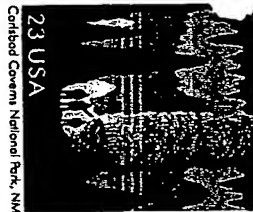
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C.B.	<input checked="" type="checkbox"/>
Stat Rpt	<input checked="" type="checkbox"/>



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 Alexandria, VA

Date Mailed: 11/23/2004
 Attorney Docket No. 5000.142

Title: PATTERN FOR IMPROVED VISUAL INSPECTION OF
 SEMICONDUCTOR DEVICES

Inventors: Tuttle *et al.*

Serial No. 10/045,766

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